The Commonwealth of Massachusetts

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ANNUAL REPORT

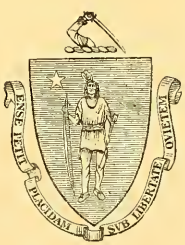
OF THE

BOARD OF REGISTRATION IN OPTOMETRY

FOR THE

YEAR ENDING NOVEMBER 30, 1940

DIVISION OF REGISTRATION
DEPARTMENT OF CIVIL SERVICE AND REGISTRATION



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DEPARTMENT OF CIVIL SERVICE AND REGISTRATION

State House, Boston

BOARD OF REGISTRATION IN OPTOMETRY

To Mrs. Margaret M. O'Riordan, *Director of Registration:*

Dear Madam: The Board of Registration in Optometry has the honor to submit to you its twenty-ninth annual report as prescribed by section 67 of chapter 112 of the General Laws.

The Board during its fiscal year ending November 30, 1940, met on eighteen days. These meetings included hearings and bi-annual examinations.

The written examinations held June 10 to 12 inclusive, and November 18 to 20, were held in the Assembly rooms of the Massachusetts Society of Optometrists, 92 Tremont Street, Boston, Massachusetts.

The clinical demonstration of ability in office procedure, instrumentation, analysis, diagnosis, prescription writing, and the determination if orthoptic procedure be necessary, the correctness of glasses prescribed as to prescription conformity and the proper adjustment of glasses to a patient were held in the clinic rooms of the above mentioned Society and at the State House.

The written examinations were as follows:

Anatomy

1. Describe the lachrymal apparatus in detail.
2. Name and describe the anterior and posterior lymph spaces.
3. Discuss the composition and structure of the vitreous body in detail.
4. Describe the crystalline lens in detail.

Physiology

1. What is an efferent nerve impulse? An afferent nerve impulse?
2. What is your understanding of reciprocal innervation? Give an illustration.
3. What is your understanding of the three phases of the visual act? Illustrate by diagram.
4. Discuss briefly stereoscopic vision.

Pathology

1. Define:
   (a) positive scotoma
   (b) negative scotoma

   What intra-ocular condition might cause a positive scotoma?
2. Describe the fundus picture in:
   (a) diabetic retinitis
   (b) Albuminuric retinitis

   Give the prognosis in each type of case.
3. What is your understanding of embolism of the central artery of the retina? Give symptoms and possible causes.

4. Give the characteristic symptoms in:
   (a) iritis
   (b) simple conjunctivitis
   (c) phlyctenular conjunctivitis

   Arrange in tabular form.

Answer three questions from each group.
The tenth may be chosen from any group.

FRANK S. JONES, Opt. D.

PRACTICAL OPTICS

1. What is the purpose of a corrected ophthalmic lens?

2. How is the result desired as expressed in your answer to question one accomplished?

3. Explain thoroughly the making of a — 3.25 sph. corrected ophthalmic lens from computation of essentials thru finished lens.

4. Solve the following lens problems: (A) Locate the resultant center in a Panoptic bifocal, Dist. B — 0.50 sph. ⌒ + 0.50 cyl. Axis 90 + 2.75 sph. add. (B) Dist. Rx + 1.25 sph. ⌒ + 0.50 cyl. Axis 180 + 2.75 sph. add. Lenses in both A and B are 40 mm. rd. and the segment is 3 mm. below center.

5. Locate the resultant centers if the lenses in A and B of question No. 4 were Orthogon D. or Tillyer D.

6. A lens + 3.00 cyl. axis 180, 40 mm. rd. is mounted in a spectacle; it is 2.5 mm. center thickness. What is the cylindrical power at axis 60° or axis 120°?

7. A + 7.00 sphere to be finished 37 x 40 mm. octogon drop shape is is decentered axis 30 to equal 2 ∇. How many millimeters is it decentered?

8. Transpose the following in as many different ways as possible.

(a)	— 0.50 sph.	⌒	+ 0.50 cyl.	axis	135
(b)	— 1.50 sph.	⌒	+ 2.75 cyl.	axis	90
(c)	+ 3.25 sph.	⌒	+ 1.12 cyl.	axis	10
(d)	+ 2.25 sph.	⌒	— 1.75 cyl.	axis	75
(e)	— 0.50 sph.	⌒	— 2.75 cyl.	axis	115

9. How may increase in the size of the ocular image be obtained by ophalmic lenses without changing the dioptral value of the lens? Rx + 1.25 sph. ⌒ + .25 cyl. axis 90.

10. What one of the following filters absorbs the most yellow: (C or No. 3 shade) of: Noviol; Calobar; Softlite; Crookes; Ray Ban. Explain answer.

WALTER IRVING BROWN, Opt. D.

THEORETIC OPTOMETRY

1. Of what significance is esophoria when found:
   (a) at distance only,
   (b) at reading point only,
   (c) at all ordinary points?

2. Discuss the theory of Tait dynamic retinoscopy. What is the purported value of this test to you and to the patient?

3. Why may the finding of appreciably less net plus in static retinoscopy than in the "distance subjective" be indicative of pathology?

4. What is the probable cause (non-pathologic) of a poor convergence amplitude? What (in inches) is your expected nearpoint of convergence at ages of 15 years, 30 years, 45 years, and 60 years respectively?

5. In taking the "habitual phoria" at near (through old or no Rx, as the case may be) when does the finding of *high* exophoria *not* indicate that additional plus lens must be prescribed very sparingly? Be specific.

6. What is the theory of the pin hole disc test? How does it differ from the stenopaic slit?

7. What is the theory of the chromatic or Cobalt test? How does it differ from the bichrome test?

8. What is the theory of the Monocular cross cylinder check test? Illustrate.

9 What is the theory of the Maddox Rod test?

10. What is the Herring theory of color vision?

CHARLES J. COLLINS, Opt. D.

PRACTICAL OPTOMETRY

1. Healthy boy, 17 years old, senior in high school, complains of recurrence of poor distance vision despite one-year-old Rx of — 1.25 S. O.U., his first glasses. (His naked vision is much poorer.) He is leaving next week for small college 1,000 miles away. Write all data for complete optometric examination of such a case with correction and advice given this patient.

2. Man 68 years old never has worn glasses and has bragged of "perfect vision" until he recently discovered that he cannot see clearly in the distance with his right eye. Now he is worried and places himself in your hands. He is in perfect health. His refraction is: O.D. 2.75 D. Myopic; O.S. Emmetropic. What would you do for him?

3. Dentist, 60 years of age, has need for distance Rx of: O.D. + 0.50 S. = + 0.50 Cyl. ax 90, O.S. — 1.00 S. which he has been wearing constantly as basic Rx of flat-top-fused-segment bifocals. His bifocal addition has been + 2.25 S. O.U., with which he "cannot see close enough for work on tooth cavities or far enough to pick out proper drills from implement shelf 26 inches away from his eyes". For his close work he really needs an addition of + 2.75 S. O.U. What would you do for him?

4. Child, 3 years old, has convergent squint of left eye. No history of convulsions or other indication of spastic involvement. His refraction as shown by static retinoscope is: O.D., + 8.00 S. = + 0.50 C. ax 90; O.S. + 9.00 S. = + 0.25 C. ax 90. Dynamic (Monocular) at 13 inches shows gross add of about 1. D. O.U. Other findings unreliable. What would you do for him?

5. Big, husky college football player has trouble studying at night—"just cannot keep awake". Your findings indicate that all he needs is + 1.00 S. O.U. for study at 16 inches, but no Rx for distance. Write complete data and reasoning for his case.

6. Major league baseball player, outfielder, comes to you because he is in a batting slump and thinks his vision may be at fault. Your 20 ft. subjective fog test, borne out by other findings, shows: O.D. + 0.50 S. ⊂ + 0.50 C. ax 45; O.S., + 0.75 S. = + 0.50 C. ax 135. What Rx would you give him and why?

7. The *lack* of which of these needed Rx's would be most likely to bother a waiter in a hotel? (Indicate your first, second and third choices by their respective letters)

(A) O.U. + 0.50 S.

(B) O.D. + 0.50 S., O.S. + 0.12 S.

(C) O.D. + 0.37 Cyl. ax 60; O.S. + 0.37 Cyl. ax 120.

8. Describe your method of doing the near-point cross-cylinder tests, stating procedure from start to finish, chart used and its position, the X-Cyls. used, and the significance of the findings.

9. (A) Functionally acquired myopia of 4.00 D. O.U. would reduce the apparent amplitude of accommodation (measured with Rx on) by what amount, if any? Why?

(B) What significance, if any, do you attach to size of pupils, in general consideration of a case.

10. Write complete data for a case which cannot wear comfortably the full plus of the subjective altho that is + 1.00 S. O.U. The patient is a 25 year old teller in a bank.

John B. O'Shea, Opt. D.

Theoretic Optics

1. A plane mirror 2 feet high is fixed on a wall of a room with its lower edge 3 feet above the floor. If a man whose eyes are 6 feet above the floor stands 3 feet in front of it, what will be the length of floor that he can see by reflection?

2. What is the difference in the apparent thickness of a biconvex lens (index 1.50) having radii of curvature of 8 cm and 20 cm and cent thickness 2 mm., the lens being examined first from one side and then from the other.

3. Where must an object be placed in front of a convex lens of 8 cm focal length to give an image:

(a) 25 cm. in front of the lens.

(b) 25 cm. behind the lens.

State in each case whether the image is real or virtual.

4. (a) What is meant by chromatic aberration of a lens?

(b) The light from a distant small source of light is brought to a focus by means of a thin equi-convex lens with radii of curvature of 20 cm. If the refractive indices for red and blue light be 1.515 and 1.524 respectively, find the chromatic aborration of the lens (expressed in millimeters.).

5. The front surface of the cornea of an eye has a radius of curvatur of 8 mm.; what will be the size and position of the image formed by the reflection of an object 20 cm. in front of the cornea and 6 cm. long?

6. Two lamps whose candle-powers are in the ratio of 2 to 1 are placed at opposite ends of a 2 meter bench. In front of the more powerful lamp is placed a screen which absorbs 30 per cent of the incident light. What will be the position of a photometer screen between the lamps when its sides are equally illuminated?

Physiological Optics

1. Illustrating with three object-image pencils show with diagrams only an emmetropic eye:

(a) With accommodation relaxed.

(b) With three diopters of accommodation in use.

2. Define:

(a) stereopsis
(b) anaglyph
(c) primary colors
(d) primary color sensations
(e) parallax
(f) mydriasis
(g) cycloplegia
(h) fusional convergence
(i) accommodation
(j) visual acuity

3. A poster is printed in red letters on a white background. What would be its appearance (a) when illuminated with red light; (b) when illuminated with green light? Explain your answers.

4. Name and discuss briefly four factors which affect the pupil size.

5. (a) Discuss briefly the relationship between accommodation and convergence.

(b) Define relative accommodation: relative convergence; accommodative lag.

6. Describe an experiment in which homonymous physiological diplopia is produced, and tell how it can be varied so that the diplopia will be heteronymous.

Answer five questions from each group.

JOHN E. CORBETT, Opt. D.

In June, 46 applicants were examined; and in November 30 applicants were examined. There were 44 successful candidates registered as practitioners of optometry during the fiscal year. One certificate of Registration by reciprocity was issued during the fiscal year.

Nine certificates of registration were revoked for nonpayment of annual registration fee. Seven certificates were cancelled due to the decease of the practitioners.

His Excellency, Governor Leverett Saltonstall appointed Dr. Percival Gregory of Springfield on September 4, 1940, to succeed Dr. John B. O'Shea of Northampton. Dr. Gregory qualified on September 11, 1940.

At the annual meeting of the Board, Dr. Walter I. Brown of New Bedford was reelected Chairman, and Dr. John E. Corbett of Boston was reelected Secretary, for the ensuing year.

FINANCIAL REPORT

Receipts

Fees received from various sources for year ending November 30, 1940	$2,813.15

Expenditures

Members' services	$1,900.00
Travel expenses	528.79
Office expenses	402.17
Total expenses	$2,830.96

Verified

Approved.

WALTER S. MORGAN,
Comptroller.

The clerical services of the Board are included in the appropriation of the Director of Registration, Personal services.

Respectfully submitted,

WALTER I. BROWN, Opt. D., *Chairman*
JOHN E. CORBETT, Opt. D., *Sec.*
CHARLES J. COLLINS, Opt. D.
FRANK S. JONES, Opt. D.
PERCIVAL GREGORY, Opt. D.